AMENDMENTS TO THE CLAIMS

In the Claims:

Please cancel claims 1-54 and add new claims 55-70 in the following manner. This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 54 (Cancelled).

55. (New) A method for generating an improved composition of contiguous overlapping peptide fragments (COPs) for a selected polypeptide allergen comprising the steps of:

(1) determining candidate contiguous overlapping peptides by a method comprising:

(a) conducting a structural analysis of the selected allergen;

(b) selecting one or more separation sites to provide contiguous overlapping peptide fragments greater than 30 peptides in length which are linear and which peptides overlap each separation site; and

(2) producing said candidate contiguous overlapping peptide fragments; and

(3) screening said candidate COPs by the steps of:

(a) selecting COPs characterized by having a T cell stimulating activity for T cells specific for the selected polypeptide allergen which is greater than a selected minimum; and

(b) selecting COPs characterized by having an IgE binding activity for IgE's reactive with the selected polypeptide allergen which is less than a selected maximum.

56. (New) The method of claim 55 in which the COPs have relatively reduced levels of IgE binding activity but conserved T cell stimulating activities relative to the IgE binding and T cell stimulating activities of the allergen holoprotein.

57. (New) The method of claim 55 wherein the peptides overlap each separation site by 10 to 15 amino acid residues.

58. (New) The method of claim 55 wherein said COPs have a T cell stimulating index which is greater than 2.

59. (New) The method of claim 55 wherein said COPs are useful in inducing tolerance to said allergen.

60. (New) The method of claim 59 wherein the COPs are useful in desensitization immunotherapy.

61. (New) The method of claim 55 in which the IgE binding activity is measured by immunoblotting.

62. (New) The method of claim 61 wherein the immunoblot is a dot blot.

63. (New) The method of claim 55 wherein the IgE binding activity is measured by skin reaction on a dermal test.

64. (New) The method of claim 63 wherein the dermal test is selected from the group consisting of skin prick tests and intradermal tests.

65. (New) The method of claim 64 wherein the dermal test is an immediate intradermal (ID) test wherein COPs are selected which have a wheal and flare reaction less than or equal to 5 mm at a peptide concentration of greater than 0.1 μg/ml.

66. (New) A method for generating an improved chimeric allergen useful in diagnostic use or in inducing tolerance to two or more selected polypeptide allergens comprising:

(1) determining candidate peptide fragments of two or more polypeptide allergens by a method comprising:

(a) conducting a structural analysis of the selected allergens;

(b) selecting one or more separation sites in each of said allergens to provide candidate peptide fragments greater than 30 peptides in length which are linear and which peptides overlap each separation site; and

(2) producing said candidate peptide fragments;

(3) screening said candidate peptide fragments by the steps of:

(a) selecting candidate peptide fragments characterized by having a T cell stimulating activity for T cells specific for the selected polypeptide allergen which is greater than a selected minimum; and

(b) selecting candidate peptide fragments characterized by having an IgE binding activity for IgE's reactive with the corresponding selected polypeptide allergen which is less than a selected maximum; and

(4) assembling candidate peptide fragments selected in steps (a) and (b) to produce a chimeric allergen polypeptide.

67. (New) A method for generating an improved chimeric allergen useful in diagnostic use or in inducing tolerance to two or more selected polypeptide allergens comprising:

(1) determining candidate peptide fragments of two or more polypeptide allergens by a method comprising:

(a) conducting a structural analysis of the selected allergens;

(b) selecting one or more separation sites in each of said allergens to provide candidate peptide fragments greater than 30 peptides in length which are linear and which peptides overlap each separation site; and

(2) producing a candidate chimeric allergen comprising at least one candidate peptide fragments from each allergen;

(3) screening said candidate chimeric allergens by the steps of:

(a) selecting candidate chimeric allergens characterized by having a T cell stimulating activity for T cells specific for the selected polypeptide allergen which is greater than a selected minimum; and

(b) selecting candidate chimeric allergens characterized by having an IgE binding activity for IgE's reactive with the corresponding selected polypeptide allergen which is less than a selected maximum.

68. (New) A composition of contiguous overlapping peptide fragments selected according to the method of claim 55.

69. (New) A chimeric allergen produced according to the method of claim 66.

70. (New) A chimeric allergen produced according to the method of claim 67.